

Title (en)  
THERMOFORMABLE SHAPE-MEMORY DEVICE AND USES THEREOF

Title (de)  
THERMOFORMBARE FORMGEDÄCHTNISVORRICHTUNG UND VERWENDUNGEN DAVON

Title (fr)  
DISPOSITIF THERMOFORMABLE ET A MEMOIRE DE FORME ET APPLICATIONS

Publication  
**EP 4139119 B1 20240320 (FR)**

Application  
**EP 21731553 A 20210426**

Priority  
• FR 2004508 A 20200506  
• FR 2021050719 W 20210426

Abstract (en)  
[origin: CA3176310A1] The invention relates to a device comprising: a first layer (11) made of a thermoformable material which is non-elastically deformable in a thermoforming temperature range, a second layer (1) made of a viscoelastic material which is elastically deformable in a temperature range including a working temperature range of the device and the thermoforming temperature range, and in which: the working temperature range is lower than the thermoforming temperature range, the first layer is bonded to the second layer by a contact surface between the first layer and the second layer, the thermoformable material is elastically deformable and more rigid than the viscoelastic material in the working temperature range, and the thermoformable material is less rigid than the viscoelastic material in the thermoforming temperature range.

IPC 8 full level  
**B29C 70/54** (2006.01); **A43B 17/00** (2006.01); **B29C 37/00** (2006.01); **B29C 45/14** (2006.01); **B29C 45/16** (2006.01); **B29C 51/14** (2006.01); **B29C 59/18** (2006.01); **B29C 61/06** (2006.01); **B29C 65/70** (2006.01); **B29C 70/68** (2006.01); **B29C 70/78** (2006.01); **B29C 70/84** (2006.01); **B29C 70/88** (2006.01); **B29D 35/14** (2010.01); **B32B 1/08** (2006.01); **B32B 3/06** (2006.01); **B33Y 10/00** (2015.01); **B29L 31/46** (2006.01); **B29L 31/50** (2006.01)

CPC (source: EP US)  
**A43B 13/04** (2013.01 - EP US); **A43B 13/12** (2013.01 - EP US); **A43B 17/006** (2013.01 - EP); **A43B 17/023** (2013.01 - EP); **B29C 37/0082** (2013.01 - EP); **B29C 45/14311** (2013.01 - EP); **B29C 51/14** (2013.01 - EP US); **B29C 65/48** (2013.01 - US); **B29C 65/565** (2013.01 - US); **B29C 65/70** (2013.01 - EP); **B29C 66/45** (2013.01 - US); **B29C 66/7311** (2013.01 - US); **B29C 66/73921** (2013.01 - US); **B29C 70/54** (2013.01 - EP); **B29C 70/682** (2013.01 - EP); **B29C 70/78** (2013.01 - EP); **B29C 70/84** (2013.01 - EP); **B29C 70/88** (2013.01 - EP); **B29D 35/14** (2013.01 - US); **B29D 35/142** (2013.01 - EP); **B32B 1/08** (2013.01 - EP US); **B32B 3/06** (2013.01 - EP); **B32B 3/30** (2013.01 - US); **B32B 5/18** (2013.01 - EP US); **B32B 7/027** (2019.01 - US); **B32B 7/08** (2013.01 - EP US); **B32B 7/09** (2019.01 - EP); **B32B 7/12** (2013.01 - EP US); **B32B 27/065** (2013.01 - EP US); **B32B 27/08** (2013.01 - EP US); **B32B 27/283** (2013.01 - EP US); **B32B 27/306** (2013.01 - US); **B32B 27/32** (2013.01 - EP US); **B32B 27/36** (2013.01 - US); **B32B 27/40** (2013.01 - EP US); **B32B 37/12** (2013.01 - US); **B32B 37/144** (2013.01 - US); **B32B 37/182** (2013.01 - US); **B33Y 10/00** (2014.12 - EP); **B33Y 30/00** (2014.12 - EP); **B33Y 80/00** (2014.12 - US); **A63B 60/08** (2015.10 - US); **B25G 1/102** (2013.01 - US); **B29C 61/0616** (2013.01 - EP); **B29C 2045/14319** (2013.01 - EP); **B29C 2045/14327** (2013.01 - EP); **B29C 2045/14352** (2013.01 - EP); **B29K 2995/0012** (2013.01 - US); **B29K 2995/007** (2013.01 - US); **B29K 2995/0079** (2013.01 - US); **B29L 2031/463** (2013.01 - US); **B29L 2031/504** (2013.01 - EP); **B29L 2031/507** (2013.01 - EP US); **B32B 2250/02** (2013.01 - EP US); **B32B 2250/03** (2013.01 - EP); **B32B 2250/24** (2013.01 - US); **B32B 2266/0221** (2013.01 - EP); **B32B 2266/025** (2013.01 - EP US); **B32B 2266/0278** (2013.01 - EP); **B32B 2266/124** (2016.11 - US); **B32B 2274/00** (2013.01 - EP); **B32B 2305/022** (2013.01 - US); **B32B 2307/536** (2013.01 - US); **B32B 2307/546** (2013.01 - US); **B32B 2323/04** (2013.01 - US); **B32B 2329/04** (2013.01 - US); **B32B 2367/00** (2013.01 - US); **B32B 2375/00** (2013.01 - US); **B32B 2437/00** (2013.01 - EP US); **B32B 2571/00** (2013.01 - EP); **B32B 2597/00** (2013.01 - US); **B33Y 40/20** (2020.01 - US); **B33Y 80/00** (2014.12 - EP)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**FR 3109907 A1 20211112**; **FR 3109907 B1 20240209**; AU 2021267719 A1 20221117; BR 112022021227 A2 20221206; CA 3176310 A1 20211111; EP 4139119 A1 20230301; EP 4139119 B1 20240320; EP 4139119 C0 20240320; JP 2023524139 A 20230608; US 2023150239 A1 20230518; WO 2021224562 A1 20211111

DOCDB simple family (application)  
**FR 2004508 A 20200506**; AU 2021267719 A 20210426; BR 112022021227 A 20210426; CA 3176310 A 20210426; EP 21731553 A 20210426; FR 2021050719 W 20210426; JP 2022567316 A 20210426; US 202117998118 A 20210426